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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/714,104

11/15/2003

Qing Liu

1931

7590

05/31/2006

QING LIU
38 SOUTH BROADWAY
FAIRLAWN, NJ 07410

EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,104

Applicant(s)

LIU ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2003 & 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 4, line 8 should be changed from "being used" to "is used" (see the copy of the Specification filed 16 March 2004). Appropriate correction is required.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 10 recites the subject matter of a communication link being provided "via infrared light." Similarly, claim 11 recites the subject matter of a communication link being provided "via conductive wire." However, the instant specification merely discloses, "the communications link is a radio frequency (RF) wireless transceiver module. However, wired and other wireless communication links may also be used." (see Page 7, Last Paragraph of the copy of the Specification filed 16 March 2004). No mention of a communication link via "infrared light" or "a conductive wire" can located in the pending specification. As such, the examiner respectfully suggests the applicants consider adding proper antecedent basis to the specification for the claimed subject matter.

Claim Objections

3. Claim 3 is objected to because of the following informalities: The last line of the claim recites the subject matter of, "providing [plural] lights." In contrast, the instant specification discloses merely providing a single light (see Page 6, Lines 12-15 of the copy of the Specification filed 16 March 2004). Because the claimed subject matter appears to be a typo, the applicants are respectfully encouraged to amend the claimed subject matter to better reflect the specification. If the claimed subject matter is not a typo, the applicants are respectfully encouraged to add proper antecedent basis to the specification for the claimed subject matter. See again 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 5, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

6. Regarding independent claim 1, the phrase "or the like" (see Line 1 of the claim) renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d). The examiner respectfully suggests the applicants consider removing the phrase "or the like" from the claim. If the claimed "hand held computer input device" is for

anything other than a "computer," the applicants are encouraged to add such explicit subject matter to the claim language.

7. Dependent claims 5 and 6 both separately recite the limitation "said communication link" in the last two lines of the respective claims. There is insufficient antecedent basis for this limitation in either claim. The examiner respectfully suggests the applicants consider making claims 5 and 6 dependent off claim 4 (which would provide the proper antecedent basis for this limitation).

[It is further noted that respectively dependent claims 7 and 8 also recite the limitation "said communication link" (see line 3) with insufficient antecedent basis. Correcting the antecedent basis of claims 5 and 6 should directly result in a correction of dependent claims 7 and 8.]

8. Dependent claims 5 and 6 are further rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationship is between the recited, "a switch" (see Claim 1, Line 4) and the recited, "one switch" (see Claims 5 and 6, Line 2). Claims 5 and 6 include the subject matter of "said switch" (see Lines 2-4); however one having ordinary skill in the art would be unable to definitely determine if "said switch" refers back to claim 1's "a switch" or claim 5 and 6's "one switch," which thereby critically impacts the ensuing scope of the claims.

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The examiner respectfully suggests the applicants consider calling the "one switch" something different which better distinguishes itself from claim 1's "a switch."

[It is further noted that respectively dependent claims 7 and 8 also recite the limitation "said switch" (see line 3). Here again, correcting claims 5 and 6 should directly result in a correction of dependent claims 7 and 8.]

9. Dependent claims 2-4 and 7-11 are further rejected under 35 U.S.C. 112, second paragraph, as simply being respectively dependent from rejected base claims.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-4 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al (US 2003/0112220 A1 -- referred hereafter as simply *Yang*).

Regarding claim 1, Yang discloses a hand held computer input device [Fig. 4] for a computer or the like (see Page 4, Paragraph 62), said input device comprising: a body [Fig. 4; 10], said body being generally elliptical or cylindrical (see Page 4, Paragraph 57); a switch [Fig. 4; 19 and Fig. 15; 42], said switch being located at one end [i.e. a "leading end"] of said body, said switch being switched on or off by depressing and releasing said input device against a work

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surface [Fig. 4; 20]; an optical motion detection integrated circuit [Fig. 4; 14] mounted at said end of the body, the motion detection integrated circuit producing motion indication signals indicative of the motion of said input device relative to said work surface (see Page 4, Paragraphs 58-61).

Regarding claim 2, Yang discloses a tip [Fig. 15; 41], said tip being located in front of said switch [Fig. 15; 42] to provide convenience for depressing and releasing (see Page 8, Paragraph 109).

Regarding claim 3, Yang discloses an illumination source [Fig. 4; 11], said illumination source being located at said end of the body and providing lights [i.e. "partially coherent light"] (see Page 1, Paragraph 8) to directly illuminate a work surface [Fig. 4; 20] (see Page 4, Paragraphs 58-61).

Regarding claim 4, Yang discloses a communication link [Fig. 4; 16], said communication link transmitting information representing the motion signal of said input device and buttons' states (see Page 4, Paragraph 62).

Regarding claim 11, Yang discloses said communication link is via conductive wire (see the unlabeled wire in Fig. 4 as well as Page 4, Paragraph 62).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al (US 2003/0112220 A1 -- referred hereafter as simply *Yang*) in view of Kobayashi et al (US 6,862,019 B2 -- referred hereafter as simply *Kobayashi*).

Regarding claim 5, Yang discloses one switch [Fig. 4; 17], said switch being located on said body; said switch being coupled to said communication link wherein said communication link transmits information representing the state of said switch (see Page 4, Paragraphs 58 and 62). Although Yang discloses a user grasping and holding the pen-type optical mouse device between his/her fingers (see Page 4, Paragraph 57), Yang does not expressly disclose said switch being operated by a user's index finger.

However, Kobayashi does disclose a switch [Fig. 9; 42_a] being operated by a user's index finger (see Column 12, Lines 28-41). Yang and Kobayashi are analogous art, because they are from the shared field of pen-type motion sensing devices. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use Kobayashi's index finger control method to operate Yang's switch, so as to provide excellent usability for the device's operator (see Kobayashi: Column 12, Lines 39-40).

Regarding claim 6, Yang discloses one switch [Fig. 4; 17], said switch being located on said body; said switch being coupled to said communication link wherein said communication link transmits information representing the state of said switch (see Page 4, Paragraphs 58 and 62). Although Yang discloses a user grasping and holding the pen-type optical mouse device between his/her fingers (see Page 4, Paragraph 57), Yang does not expressly disclose said switch being operated by a user's thumb.

However, Kobayashi does disclose a switch [Fig. 9; 42_b] being operated by a user's index thumb (see Column 12, Lines 28-41). Yang and Kobayashi are analogous art, because they are from the shared field of pen-type motion sensing devices. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use Kobayashi's thumb control method to operate Yang's switch, so as to provide excellent usability for the device's operator (see Kobayashi: Column 12, Lines 39-40).

Regarding claim 7, Yang discloses one rotation sensor [Fig. 4; 18] operated by a wheel, said rotation sensor and said wheel being located in conjunction with said switch; said rotation

sensor being coupled to said communication link wherein said communication link transmits information representing the state of said rotation sensor (see Page 4, Paragraphs 58 and 62).

Regarding claim 8, Yang discloses one rotation sensor [Fig. 4; 18] operated by a wheel, said rotation sensor and said wheel being located in conjunction with said switch; said rotation sensor being coupled to said communication link wherein said communication link transmits information representing the state of said rotation sensor (see Page 4, Paragraphs 58 and 62).

15. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al (US 2003/0112220 A1 -- referred hereafter as simply *Yang*) in view of Badyal et al (US 6,151,015 A -- referred hereafter as simply *Badyal*).

Regarding claim 9, although Yang discloses said communication link supporting both wire and wireless transmissions (see Page 4, Paragraph 62), Yang does not expressly disclose said communication link is via radio frequency waves.

However, Badyal does disclose a communication link [Fig. 1; 116 & 118] is via radio frequency waves (see Column 3, Lines 17-22). Yang and Badyal are analogous art, because they are from the shared field of pen-type motion sensing devices. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use Badyal's radio frequency wave communication link as Yang's wireless transmission communication link, so as reliably perform pointing functions for a desktop or laptop computer while preventing the device from getting tangled in wires (see Badyal: Column 2, Lines 1-9).

Regarding claim 10, although Yang discloses said communication link supporting both wire and wireless transmissions (see Page 4, Paragraph 62), Yang does not expressly disclose said communication link is via infrared light.

However, Badyal does disclose a communication link [Fig. 1; 116 & 118] is via infrared light (see Column 3, Lines 17-22). Yang and Badyal are analogous art, because they are from the shared field of pen-type motion sensing devices. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use Badyal's infrared light communication link as Yang's wireless transmission communication link, so as reliably perform pointing functions for a desktop or laptop computer while preventing the device from getting tangled in wires (see Badyal: Column 2, Lines 1-9).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Kang (US 2006/0028456 A1), Massie et al (US 2005/0093821 A1), Kim (US 2004/0041798 A1), Kano (US 2002/0036623 A1), McRae et al (US 7,042,438 B2), Yueh (US 7,030,864 B2), Charlier (US 6,985,138 B2), Gordon (US 6,795,057 B2), Nagasaki et al (US 6,622,276 B2), Fleck et al (US 6,556,190 B2), Martin (US 5,933,135 A), Angilella et al (US 5,780,846 A), Bacon et al (US 5,473,344 A), Satoh et al (US 5,444,193 A), and Searby et al (US 5,357,265 A) are cited to further evidence the state of the art pertaining to hand-held computer input devices.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

26 May 2006